



This is an official
DHEC Health Advisory

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Tuberculosis in a School in Ninety-Six, South Carolina

Summary

In March 2013, DHEC was notified of an individual with active tuberculosis disease (TB) in a school. An investigation was begun and is continuing. To date, the Department of Health and Environmental Control (DHEC) tested four hundred seventy-five (475) individuals as a result of an expanding TB contact investigation. Fifty-nine (59) of the individuals had positive skin tests and were sent for chest x-rays. Eight (8) abnormal chest x-rays have been identified, all in children in the school. All persons with positive skin tests and/or abnormal chest x-rays have been contacted for follow-up with a DHEC physician or a TB nurse. Where appropriate, treatment is being initiated. This is an ongoing investigation. All new findings are being evaluated fully. DHEC is also contacting additional persons who may have been exposed as part of this continuing investigation.

Guidance for Clinicians

Clinicians are advised that DHEC is continuing to identify those who were determined to be at possible risk of TB infection from exposure to the index patient. The setting in which the contact occurred, as well as the health status of the source patient, are important factors in the likelihood of disease transmission.

Some children have been identified with abnormal chest x-ray findings in the course of this investigation. In general, children with TB are non-infectious unless they have the "adult-form" of the disease. Children are investigated to identify their potential source of infection; however, investigations of contacts to children with disease are not recommended. Individuals identified as being at risk for exposure to the index case of this investigation are those that spent a significant amount of time in the school during the school year.

Anyone reporting contact with children at the school is not at risk. Further evaluation is not needed for these individuals. Clinicians should contact DHEC for guidance if a patient reports they had significant contact in the school and they have not already been tested.

Clinicians are asked to consider tuberculosis and appropriately evaluate anyone presenting with a consistent history and physical exam. DHEC does not recommend that clinicians conduct additional TB skin testing in response to this investigation.

The following is background information about TB to assist health care providers in responding to concerns from the community about this investigation.

Latent TB Infection vs. TB Disease

M. tuberculosis is nearly always transmitted through the airborne route, with infecting organisms being carried in droplet nuclei expelled into the surrounding air from coughing. The risk of person-to-person transmission of *M. tuberculosis* is determined by certain characteristics of the source-case, and of the person exposed to the source-person and in the environment in which the exposure takes place.

In the majority of immunocompetent individuals, the immune response alone is effective in controlling primary TB infection resulting from exposure to *M. tuberculosis*, but viable organisms remain to establish latent TB infection (LTBI). For the majority of infected persons, the only evidence of LTBI is an immune response against mycobacterial antigens, which is demonstrated by a positive test result, most commonly a tuberculin skin test. Individuals with LTBI do not transmit *M. tuberculosis*.

With LTBI, the risk for progression to TB disease varies. Multiple clinical conditions are associated with increased risk for progression from LTBI to TB disease. HIV infection is the strongest known risk factor. Other key risk factors include diabetes mellitus, acquisition of LTBI in infancy or early childhood, apical fibro-nodular changes on chest radiograph, and the use of therapeutic agents that antagonize the effect of cytokine tumor necrosis factor alpha (TNF- α) for the treatment of autoimmune-related conditions (e.g., Crohn's disease and rheumatoid arthritis). With rare exceptions, only individuals with airway pulmonary or laryngeal TB can transmit infection to other people.

Strategies for TB Prevention and Control

Control of TB disease requires collaboration between health care professionals and public health. Essential approaches are obtaining a thorough history of exposure(s) to people with infectious tuberculosis, timely and effective contact investigations, proper interpretation of screening tests, and appropriate anti-tuberculosis therapy, including directly observed therapy.

The four primary strategies of control are:

- Prompt detection and reporting of persons who have contracted TB. Because the majority of persons with TB receive a diagnosis when they seek medical care for symptoms caused by progression of the disease, health-care providers must be aware of cardinal signs and symptoms and report suspect TB cases to DHEC.
- Protection of close contacts of patients with contagious TB from contracting TB infection and disease. Contact evaluations identify persons in the early stages of LTBI and help to detect further cases of TB disease.
- Prevention of TB among the substantial population of U.S. residents with LTBI. This is accomplished by identifying those at highest risk for progression from latent infection to active TB through targeted testing.
- Reduction of TB from recent transmission of *M. tuberculosis* by identifying settings at high risk for transmission and applying effective infection-control measures to reduce the risk.

TB Testing

TB infection is detected primarily by two screening tests, the tuberculin skin test (TST) and the interferon-gamma release assay (IGRA). DHEC will perform all TB screening tests for this investigation. Exposed persons with a negative screening test and no symptoms do not require additional follow-up.

Reporting of Cases

- All cases of Tuberculosis are urgently reportable to DHEC within 24 hours.
- Cases can be reported at the numbers listed below.

*For additional information, please contact **1-888-354-3113**.*

Resources for additional information:

- Controlling Tuberculosis in the United States
<http://www.cdc.gov/mmwr/PDF/rr/rr5412.pdf>
- Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis
<http://www.cdc.gov/mmwr/pdf/rr/rr5415.pdf>

DHEC contact information for reportable diseases and reporting requirements

Reporting of Tuberculosis is consistent with South Carolina law requiring the reporting of diseases and conditions to your state or local public health department (State Law # 44-29-10 and Regulation # 61-20). The DHEC 2013 List of Reportable Conditions is available at:

<http://www.scdhec.gov/health/disease/reportables.htm>

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease (HIPAA 45 CFR §164.512).

Regional Public Health Offices – 2013

Mail or call reports to the Epidemiology Office in each Public Health Region.

LOW COUNTRY PUBLIC HEALTH REGION

Berkeley, Charleston, Dorchester
4050 Bridge View Drive, Suite 600
N. Charleston, SC 29405
Phone: (843) 953-0047
Fax: (843) 953-0051
Nights / Weekends: (843) 219-8470

Beaufort, Colleton, Hampton, Jasper
219 S. Lemacks Street
Walterboro, SC 29488
Phone: (843) 441-1091
Fax: (843) 549-6845
Nights / Weekends: (843) 441-1091

Allendale, Bamberg, Calhoun, Orangeburg
PO Box 1126
1550 Carolina Avenue
Orangeburg, SC 29116
Phone: (803) 268-5833
Fax: (803) 533-7134
Nights / Weekends: (803) 535-9265

MIDLANDS PUBLIC HEALTH REGION

Fairfield, Lexington, Newberry, Richland
2000 Hampton Street
Columbia, SC 29204
Phone: (803) 576-2749
Fax: (803) 576-2993
Nights / Weekends: 1-888-554-9915

Chester, Kershaw, Lancaster, York
PO Box 817
1833 Pageland Highway
Lancaster, SC 29720
Phone: (803) 286-9948
Fax: (803) 286-5418
Nights / Weekends: 1-866-867-3886

Aiken, Barnwell, Edgefield, Saluda
222 Beaufort Street, NE
Aiken, SC 29801
Phone: (803) 642-1618
Fax: (803) 643-8386
Nights / Weekends: (803)645-8167

PEE DEE PUBLIC HEALTH REGION

Chesterfield, Darlington, Dillon, Florence, Marlboro, Marion
145 E. Cheves Street
Florence, SC 29506
Phone: (843) 661-4830
Fax: (843) 661-4859
Nights / Weekends: (843) 601-7051

Clarendon, Lee, Sumter
PO Box 1628
105 North Magnolia Street
Sumter, SC 29150
Phone: (803) 773-5511
Fax: (803) 775-9941
Nights/Weekends: (803) 458-1847

Georgetown, Horry, Williamsburg
1931 Industrial Park Road
Conway, SC 29526-5482
Phone: (843) 915-8804
Fax: (843) 365-0085
Nights/Weekends: (843) 340-4754

UPSTATE PUBLIC HEALTH REGION

Anderson, Oconee
220 McGee Road
Anderson, SC 29625
Phone: (864) 260-4358
Fax: (864) 260-5623
Nights / Weekends: 1-866-298-4442

Abbeville, Greenwood, Laurens, McCormick
1736 S. Main Street
Greenwood, SC 29646
Phone: 1-888-218-5475
Fax: (864) 942-3690
Nights / Weekends: 1-800-420-1915

Greenville, Pickens
PO Box 2507
200 University Ridge
Greenville, SC 29602-2507
Phone: (864) 372-3133
Fax: (864) 282-4373
Nights / Weekends: (864) 809-3825

UPSTATE PUBLIC HEALTH REGION (continued)

Cherokee, Spartanburg, Union
PO Box 4217
151 E. Wood Street
Spartanburg, SC 29305-4217
Phone: (864) 372-3133
Fax: (864) 282-4373
Nights / Weekends: (864) 809-3825

**DHEC Bureau of Disease Control
Division of Acute Disease Epidemiology**
1751 Calhoun Street
Box 101106
Columbia, SC 29211
Phone: (803) 898-0861
Fax: (803) 898-0897
Nights / Weekends: 1-888-847-0902



www.scdhec.gov

Categories of Health Alert messages:

Health Alert	Conveys the highest level of importance; warrants immediate action or attention.
Health Advisory	Provides important information for a specific incident or situation; may not require immediate action.
Health Update	Provides updated information regarding an incident or situation; unlikely to require immediate action.